

Appendix A

Field Artillery in Combined Operations

This appendix outlines interoperability considerations for US FA units supporting an allied maneuver force in a multinational environment. Such taskings are commonly called out-of-sector missions and are generally in support of an allied division or corps. To provide the best possible FS, reinforcing US FA units will have to make certain adjustments to adapt to the new operating environment. For information on multinational commands see FM 100-7. Many of the treaties and defense pacts to which the US is a signatory provide for US forces to operate with those of other nations. By definition, combined operations are conducted by forces of two or more allied nations acting together for the accomplishment of a single mission in consonance with formal agreements to achieve broad, long-term objectives. Coalition operations, like combined operations, involve nations that have formed an alliance for a specific purpose, but on a temporary basis in response to often unforeseen events. Operation Desert Storm is an example. In such temporary coalition environments, agreements on doctrine, tactical principles, and operating techniques will probably be only partially developed, if they exist at all. Allied and US forces may, therefore, have to work out interoperability procedures under the pressure of imminent conflict or after initiation of combat operations.

INTEROPERABILITY CONSIDERATIONS

A-1. The terms of rationalization, standardization, and interoperability (RSI) focus allied efforts to resolve national differences to enhance the collective potential. To achieve the desired degree of cohesion, unity of effort, and combat effectiveness and to minimize the potential for fratricides, both alliances and coalitions require ad hoc or more permanent arrangements to harmonize doctrine and TTP. The following considerations facilitate the definition of requirements for delivery of effective fires in support of multinational operations. On-site assessments by FA commanders should include relevant METT-TC conditions to include the anticipated length of out-of-sector missions. For short-term missions, some of the following considerations and associated requirements may not be significant. However, the possibility that short-term missions may be significantly extended should be considered.

COMMUNICATIONS FACTORS

A-2. Communications among FA units and supported allied and/or coalition forces will be significantly affected by differences in languages and terminology, varying interpretations of FA terms and symbols, translation nuances, incompatible communications equipment, and availability of bilingual personnel. For example, while the US distinguishes between suppressive and

neutralization fires, allies, for the most part, do not make such distinction. Increasingly, automation and digitization may also create problems in terms of computer compatibility, gateways, and data and information transfer capabilities. Although past efforts to harmonize multinational C2 doctrine, TTP, and equipment have facilitated the cross-boundary flow of information, difficulties may still arise in even relatively sophisticated environments such as NATO/ABCA.

LANGUAGE REQUIREMENTS

A-3. Exchanging bilingual liaison teams for the duration of out-of-sector missions in accordance with Standardization Agreement (STANAG) 2101, "Principles and Procedures for Establishing Liaison" may be one method to alleviate language problems among NATO formations. Publishing keyword and phrase lists, based on Allied Administrative Publication (AAP)-6, "NATO Glossary of Terms and Definitions" in unit TSOPs may also help solve some of these problems. In addition, extensive use of graphics in place of lengthy verbal descriptions and face-to-face coordination among supporting and supported commanders and staffs will assist with language problems.

COMMUNICATIONS EQUIPMENT INCOMPATIBILITY

A-4. Although incompatible communications equipment among allied forces can create substantial C2 problems, at least some of these can be overcome by in-depth prior planning. Keys to communications success are prior coordination, mutual understanding, and flexibility.

WIRE COMMUNICATIONS

A-5. Despite similarities in various items of telephone equipment, wire communications with allies can still present interoperability problems. Some may be overcome relatively easily through the fabrication or exchange of jack plugs and similar interface devices. Also, at division and corps levels, a dependable, long-range wire system can be established by tapping into existing civilian telephone lines with appropriate junction boxes. Also, differences in voltage and cycles per second between US and allied field telephones may reduce operating ranges from 3.2 km to about 2 km without external power amplification.

AREA COMMON USER SYSTEM ACCESS

A-6. To maintain communications with parent HQ, out-of-sector FA units should maintain ACUS connectivity, if at all possible. Normally, this requires access to an MSE extension node or properly positioning radio access units (RAUs) for continued use of organic radio telephones. For example, FA brigades assigned out-of-sector missions should retain habitually associated MSE connectivity as long as they can establish electronic line of sight with accompanying extension node(s) and RAUs to one of the parent corps' MSE node centers.

COMBAT NET RADIOS

A-7. Despite significant efforts to field compatible radios among NATO's major partners, residual incompatibilities may still present difficulties. Although

many allied radios net with single-channel ground and airborne radio system (SINCGARS) in the frequency-hopping mode, synchronization must be carefully coordinated. For operations with non-members of long-standing alliances, compatible radio communications are largely a question of where they procured their radios. Although tactical military radios nearly always use AM or frequency modulated (FM) equipment, factors such as frequency overlap, squelch, and speech security devices may limit or preclude radio communications between out-of-sector US FA elements and supported coalition forces.

REMEDIES

A-8. In the absence of compatible communications equipment, some interim measures can be taken to alleviate multinational communications interface problems. For example, communications planners should:

- Equip bilingual liaison teams with secure communications gear to facilitate sending and receiving secure transmissions from the supported allied force.
- If available, provide out-of-sector units with TACSAT stations or some other form of point-to-point communications means.
- Have one country provide terminal equipment at both ends of a multichannel system to achieve a complete multichannel interface.
- Use combined SOIs to eliminate country-to-country variations in authentication, coding, and decoding procedures.

ALLIED FIRE SUPPORT DOCTRINE

A-9. Although national doctrine may evolve faster than international agreements, field artillerymen from allied nations must strive to gain a common understanding of potentially contrasting doctrine and TTP. In the absence of prior agreements, problems during coalition operations can at times be best resolved at the lowest applicable level. Any resulting local arrangements should then be reflected in unit SOPs. Also, to ensure effective integration of available FA fires and to mitigate the adverse impact of any doctrinal and/or equipment differences, FA units should strive to participate regularly in combined field training and CP exercises.

TACTICAL FIRE CONTROL AND STANAGS

A-10. To improve standardization and enhance mutual understanding, the US and its NATO and ABCA allies have entered into standardization agreements, known as STANAGs and QSTAGs. NATO STANAG 2934, "Artillery Procedures," and QSTAG 217, "Tactical Tasks and Responsibilities for the Control of Artillery," list agreed-upon procedures on how to send, receive, and process fire missions for NATO and ABCA FA units. These agreements represent a major step towards achieving interoperability and advance prospects for the delivery of timely and effective fires in support of coalition operations. These agreements are implemented in the FM 6-20-series manuals.

STANDARD FA MISSION STATEMENTS

A-11. The duties of US field artillerymen are defined in terms of the four standard tactical missions with their associated seven responsibilities. Because

of variances in heritage, organizations, materiel, and doctrine, allied nations may use FA mission statements different from those in the US Army. STANAG 2934 specifies tactical missions and comparable inherent responsibilities for all signer nations against surface targets. These are depicted at Table A-1 below.

A-12. If the stated responsibilities are not fully responsive to the maneuver commander's requirements, one or more may be changed, limited, or expanded. In such cases, the differences shall be clearly stated in the appropriate artillery OPORD or FS annex. If the revisions are so extensive that the original task is no longer recognizable, the new mission statement will address each of the FS responsibilities.

A-13. When supporting allied forces, US artillery units are likely to be assigned a reinforcing mission. This mission may be modified into a nonstandard mission to account for special METT-TC considerations. OPORDs will specify additional tasks and responsibilities for units engaged in out-of-sector operations.

FIRE SUPPORT COORDINATING MEASURES

A-14. To support allied formations with timely, effective fires at the operational and tactical levels, FA commanders must develop, fully understand, and rigidly adhere to a common set of fire control measures.

A-15. The FM 6-20-series manuals contain some FSCMs that have not yet been agreed to by NATO or ABCA. The US proposed the measures coordinated fire line (CFL), restrictive fire line (RFL), and restrictive fire area (RFA) for inclusion in STANAG 2934. The US has entered a reservation by using CFLs in lieu of no-fire lines (NFLs). STANAG 2934, as implemented in the FM 6-20-series FS manuals, includes only the fire support coordination line (FSCL).

IDENTIFICATION OF FRIENDLY FORCES

A-16. Positive identification of friendly forces on the battlefield will be an even bigger challenge when supporting allied formations. To ensure that friendly forces are not mistakenly identified as hostile and fired on by friendly artillery, unit boundaries and AOs must be known and carefully coordinated. Frequent and accurate reporting of unit locations is also a critical factor in preventing fratricide and should be rigidly enforced.

COMBAT SERVICE SUPPORT

A-17. CSS in combined operations is a complex task because CSS remains predominantly a national responsibility. Allied ground force commanders must ensure that their units are adequately supported, particularly in terms of required ammunition, repair parts, and maintenance assistance when under the tactical control of another nationality.

A-18. To overcome at least some of these difficulties, NATO and ABCA partners have reached a certain degree of commonality in areas such as fuels, munitions, and some combat support vehicles. In addition, acquisition and cross-servicing agreements, where they exist, provide for mutual support. However, such arrangements are generally not enough to fully sustain US out-of-sector units operating under allied control.

A-19. Effective support for US out-of-sector FA units requires, therefore, close coordination among allied and US support commands. For example, national CSS elements providing required assistance must be located well forward or within reasonable lateral range to facilitate support operations to include the evacuation of major end items for rebuild, salvage, or replacement.

Table A-1. Tactical Tasks and Responsibilities for Control of Artillery (NATO and ABCA)

Artillery with a Tactical Task of-	Direct Support	General Support	General Support Reinforcing	Reinforcing
Answers Calls for fire in Priority from-	1. Directly supported formation/unit 2. Own observers 3. Force field artillery	1. Force field artillery HQ (1) and target acquisition artillery 2. Own observers	1. Force field artillery HQ (1)	1. Reinforced artillery unit 2. Own observers 3. Force field artillery HQ (1)
Establishes Liaison with-	Directly supported formation/unit (battalion, regiment, and brigade)	No inherent requirement	Reinforced field artillery unit	Reinforced field artillery unit
Establishes Communications with-	The directly supported maneuver formation/unit	No inherent requirement	Reinforced field artillery unit	Reinforced field artillery HQ
Furnishes Forward Observer/Fire Support Teams to-	Each maneuver company of the directly supported formation/unit	No inherent requirement	Reinforced field artillery unit if approved by force field artillery HQ (1) (2)	Upon a request of reinforced field artillery unit (2)
Weapons Moved and Deployed by-	Direct support field artillery unit commander or as ordered by force field artillery HQ (1)	Force field artillery HQ (1)	Force field artillery HQ (1) or reinforced field artillery unit if approved by force field artillery HQ	Reinforced field artillery unit or ordered by force field artillery HQ (1)
Has as its Zone of Fire-	Zone of action of the directly supported formation/unit	Zone of action of the supported formation/unit or zone prescribed	Zone of action of the supported formation/unit to include zone of fire of the reinforced field artillery unit	Zone of fire of reinforced field artillery unit at zone prescribed
Has its Fire Planned by-	Develops own fire plans in coordination with directly supported formation/unit	Force field artillery HQ (1)	Force field artillery HQ (1) or as otherwise specified	Reinforced field artillery unit
Nations to which Terminology Applies-	BE, CA, DA, FR, GE, GR, IT, NL, NO, PO, SP, TU, UK, US	BE, CA, DA, FR, GE, GR, IT, NL, NO, PO, SP, TU, UK, US	BE, CA, DA, FR, GR, IT, NL, PO, SP, TU, UK, US	BE, CA, DA, FR, GE, GR, IT, NL, NO, PO, SP, TU, UK, US
Notes: 1. Force artillery headquarters or higher authority headquarters 2. Applies also to the provision of liaison officers.				
Legend: ABCA = Australia, Britain, Canada, America BE = Belgium CA = Canada DA = Denmark FR = France GE = Germany GR = Greece IT = Italy NL = Netherlands NO = Norway PO = Portugal SP = Spain TU = Turkey UK = United Kingdom US = United States				